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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,366	03/08/2004	David Freker	42P18653	2247

8791 7590 06/07/2006

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EXAMINER

DU, THUAN N

ART UNIT

PAPER NUMBER

2116

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Applicati n No.	Applicant(s)	
	10/796,366	FREKER ET AL.	
	Examin r	Art Unit	
	Thuan N. Du	2116	

-- The MAILING DATE of this communication appears n the cover sheet with the c rrespondence address --

Peri d f r Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Pri rity under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing R view (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-22 are presented for examination.

Claim Objections

2. Claim 1 is objected to because of the following informalities: "An memory controller" should be -- A memory controller --. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admission of prior art [AAPA] in view of Johnson (U.S. Patent No. 5,661,751).
5. Regarding claims 1, 11-13, 15, 17-22, AAPA teaches a memory controller comprising a memory enable deassertion logic for deasserting a memory enable signal to the memory [application's specification, p. 1, ll. 6 of par. 0003], the memory enable signal is used for reading and writing operation [application's specification, par. 0002]. AAPA does not teach that the deassertion can be delayed for a period of time after completion of a memory operation.

Johnson teaches a power management system comprising a clock control unit (102) for asserting and deasserting a clock enable signal (138) [Fig. 1; col. 5, lines 5-30], wherein the

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deassertion of the clock enable signal can be delayed by a period of time after completion of an operation (activity detection) [col. 5, lines 46-58], the delay period chosen for a preferred latency versus power savings tradeoff [col. 5, lines 26-30].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of AAPA so that the deassertion of the clock enable signal can be delayed by a period of time after completion of an operation as taught by Johnson because it would allow the system to maintain the clock to the memory when desired.

6. Regarding claims 2, 16, AAPA teaches that the memory comprises double data rate (DDR) dynamic random access memory (DRAM) [application's specification, par. 0002].

7. Regarding claim 3, one of ordinary skill in the art would have recognized that each setting could be different from the other.

8. Regarding claims 4-6, 14, Johnson teaches that the system including a counter [Fig. 2].

9. Regarding claims 7-10, since they recite method of operating of the apparatus defined in the apparatus claims, they are rejected accordingly based on the rejection of the apparatus claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuan N. Du whose telephone number is (571) 272-3673. The examiner can normally be reached on Monday-Friday: 9:30 AM - 6:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H. Browne can be reached on (571) 272-3670.

Central TC telephone number is (571) 272-2100.

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The fax number for the organization is (571) 273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

A handwritten signature in black ink, appearing to read 'Thuan Du', with a long horizontal flourish extending to the right.

Thuan Du
June 2, 2006